

## NEW SPECIES AND RECORDS OF COLORADO DIPTERA

BY MAURICE T. JAMES  
COLORADO STATE COLLEGE

Collectors from the outside who have visited Colorado in the past have, to a great extent, neglected one of the most interesting regions of the state, namely, the short-grass plains of the eastern counties. Characteristic as the mountain faunas are, they do not contain everything of entomological interest that Colorado has to offer. The eastern plains, forming what the plant ecologists of the Weaver-Clements school call the *Bulbilis-Bouteloua* associates, have a distinctive dipterous fauna which to a great extent, consists of elements entering from the east, but which, especially in sand-hills areas, contains certain southern and southwestern constituents.

In the accompanying paper, certain new state records are given, and several new species described, all but one from the short-grass region.

### THEREVIDÆ

#### *Psilocephala pavid*a Coquillett

2 males, Roggen, Colorado, May 19, 1934 (M. T. James).

This species, described from Los Angeles County, California, is recorded by Cole only from Southern California. The two specimens above mentioned agree perfectly with Coquillett's and Cole's descriptions, and Cole's illustrations. They were taken in the sand-hills area, however, which has many southern and southwestern constituents included in its fauna.

#### *Psilocephala coloradensis*, new species

Related to *P. frontalis* Cole, *P. hæmorrhoidalis* Macquart, and *P. albertensis* Cole; the wholly black anterior tibiæ will distinguish it from those species. The male genitalia are entirely and moderately densely black-pilose, as in *hæmorrhoidalis*, but the frontal pollinose markings, in both sexes, resemble those of *frontalis*. The wings are rather heavily but uniformly infumated; this, together with the greater amount of pale on the legs, will distinguish it from *costalis* Loew.

**MALE.** Body entirely black in ground color. Head covered with whitish pollen, except a small area on each cheek and the large frontal prominence, the latter shining black. Pile of face and of lower part of occiput whitish and rather fine, except for an area of coarse, short, black pile on each cheek; pile of front and ocellar triangle black, rather coarse; bristles of occiput black. Antennæ black; the first and second segments clothed with moderately long black bristles; the third segment on the basal fourth with shorter black bristles which are densest above; the third segment about equal in length to the first two combined, the style somewhat shorter than the second segment. Thorax whitish pollinose and whitish pilose, with black bristles; in well-preserved specimens, there is a considerable amount of black pile mixed with the white pile of the dorsum. Halteres black. Scutellum with four black marginal bristles. Abdomen densely whitish pollinose, silvery dorsally; the very narrow apices of segments 2 and 3 white; the basal lateral angles of segments 2-5 inclusively, segment seven, and genitalia, shining black; genitalia wholly black-pilose, the pile rather conspicuous; also some black pile ventrally on segments 5-7 inclusively. Femora black, with white pile and black bristles; tibiæ and tarsi with short stubby black pile and black bristles; anterior tibiæ and tarsi wholly black; middle and hind tibiæ and basitarsi yellow, with narrow black apices, broader proportionally on the tarsi; tarsi otherwise black, with at most a small amount of yellow at the base of the second segment. Wings rather uniformly infumated, slightly more heavily so near the costa, at the apex, and along the veins bordering the discal cell; origin of vein  $R_{2+3}$  remote from the discal cell; fourth posterior and anal cells closed and petiolate; length, 7-8 mm.

**FEMALE.** Similar to the male; the front with a short pollinose area extending upward along each eye from the pollinose facial region; a similar pollinose spot to each side of the ocellar triangle; the inner ocular orbits are very narrowly pollinose. Pile of body sparser than in the male. Thorax only very indistinctly vittate; no black thoracic pile. Pile of abdominal segments 4-8 inclusively with short, stubby black pile, ventrally and dorsally.

Holotype: male, Boulder, Colo., May 24, 1934. (A. L. Hays.)

Allotopotype: female, Boulder, Colo., Aug. 3, 1932 (M. T. James.)

Paratypes: 6 males, 7 females, Boulder, Colo., June 3, 9, 10, July 7, 1932 (James), June 9, 13, 25, 28, 1933 (James), June 8, 1934 (James); 1 female, Boulder, Colo., June 5, 1927 (E. C. Nelson); 4 females, Olney Springs, Colo., May 28 and Sept. 1, 1932 (James); 3 males, Crowley, Colo., Sept. 1, 1932 (James); 2 males, 1 female, Roggen, Colo., July 31, 1934, and Sept. 8, 1933 (James); 3 females, 1 male, White Rocks, near Valmont, Colo., July 2 and 4, 1933 (M. T. and H. B. James); 1 female, south of Coolidge, Kans., July 31, 1933 (H. G. Rodeck and M. T. James); 1 female,

1 male, Two Buttes, Colo., Aug. 1, 1933 (Rodeck, James); 1 male, North of Cheyenne Wells, Colo., July 27, 1933 (Rodeck and James); 1 male, east of Burlington, Colo., July 26, 1933 (Rodeck and James); 1 male, Cimarron River, north of Ramsey, Okla., Aug. 3, 1933 (Rodeck and James); 1 female, Ft. Collins, Colo., June 11, 1934 (Kenneth Maehler).

This species, apparently common in the grassland area of eastern Colorado, has been taken in association with *P. platanocala* Loew at Boulder and Roggen. The latter species seems more characteristic of the higher altitudes. Both species seem to occur in medium or mixed grassland societies in the short grass plains region. The paratype localities of Kansas and Oklahoma are, in each case, within a mile of the Colorado line.

#### RHAGIONIDÆ

##### *Chrysopilus aldrichi*, new species

Related to *C. flavibarbis* Adams, of which it may be merely a subspecies or high altitude race. It is, however, considerably more robust; the thorax, from wing-base to wing-base, is as broad as its length, including the scutellum, whereas in *flavibarbis* the thorax is more slender; the head and abdomen are of proportionate breadth. Perhaps the best distinguishing character is the vestiture of the palpi, which is coarse and black. Runs to *flavibarbis* in Leonard's key.

Holotype: Male, Tolland, Colo., July 10, 1932 (M. T. James).

Allotype: Female, Long's Peak Inn, Canadian Zone, July 21 (T. D. A. Cockerell) (determination label, "*Chrysopilus* n. sp. ? det. Aldrich").

Paratypes: Female, A. S. U. C. Lodge, 7800 ft. near Boulder, Colorado, July 1, 1932 (James); 2 males, Gold Hill, Colo., 8000 ft., June 24, 1932 (James).

##### *Chrysopilus arctiventris* new species

A slender species, resembling in form the European *C. aureus*; in Leonard's key it runs (rather imperfectly, since the femora have a considerable amount of yellow on them) to *proximus* Walker, but it is quite a different species.

MALE. Head, thorax including coxæ, and abdomen black in ground color, but densely whitish-pollinose, the pollen entirely concealing the ground color; on the bases of abdominal segments 2-7 inclusively the pollen becomes gradually brownish, and is definitely brown on the basal third of the segments. Antennæ black, the three segments subequal to each other, but the third slightly the longest and the first the shortest; arista twice as long as the

three segments combined; first segment distinctly white-pilose below, the other segments white-pubescent. Palpi long, slender, black; proboscis yellow; palpi proboscis face, cheeks, and occiput with rather long but moderately sparse white pile. Thorax and abdomen rather sparingly clothed with whitish pile and pale-yellow scale-like tomentum, the pile densest on the coxæ, halteres yellow, their knobs black. Femora blackish with whitish scale-like tomentum above and short white pile below; the apices, the basal third of the middle and the basal half of the hind femora, yellowish; hind femora clavate and longer than the others; tibiæ yellow; tarsi blackened, except the basal part of the basitarsi. Wings hyaline, the stigma pale brown; veins  $M_1$  and  $M_2$  arise from the discal cell very close to each other, though the paratypes show considerable latitude here. Length, 7 mm.

FEMALE. Similar to the male; the upper front and the vertex are brown-pollinose, and the posterior femora are yellow; other legs missing in the type.

Holotype: Male, Roggen, Colo., May 19, 1934 (M. and H. James).

Allotopotype: Female, same data.

Paratopotypes: 2 males, same data; 1 male, May 19, 1934 (Sybil D. Grow).

From the sand-hills region; taken in a stream-side sedge-cat-tail community.

#### ASILIDÆ

##### *Stichopogon argenteus* Say

This is apparently a sand-inhabiting species. It has been recorded on sandy beaches along the Atlantic coast, and again in California. My inland records are unique, but I can not distinguish my specimens from eastern ones. I have taken it resting directly on the sand at Roggen, Sept. 8, 1932; also at the foot of the Alamosa Sand Dunes, Sept. 1, 1934.